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19" All-in-One Digital Video Recorder

DVR4-5500™

Operating Instructions

SW349-DA9

www.swannsecurity.com

SR349-DA9-60010-290509

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CAUTION

RISK OF ELECTRIC SHOCK

CAUTION:
To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.
Only operate this apparatus from the type of power source indicated on the label.
The company shall not be liable for any damages arising out of any improper use, even if we have been advised of the possibility of such damages.

FCC WARNING STATEMENT

This device complies with Part 15 of FCC Rules.
Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation

Version

Firmware: 1142-1039-1013-1026-0A-0000

Video Viewer: 0114

Graphic Symbol Explanation

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly “lead-free” and without the hazardous substances cited in the directive.

The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.

This apparatus is manufactured to comply with the radio interference requirements.

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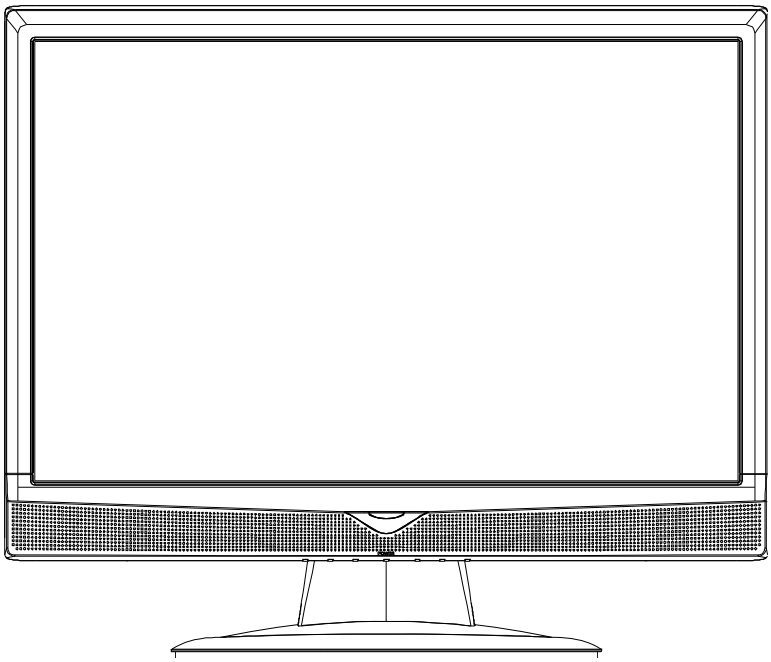
We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code. The codes are provided on the FTP site, and please download them from the following site or you can refer to your distributor:
ftp://ftp.dvrtw.com.tw/GPL/AV074/

Disclaimer

We reserve the right to revise or remove any content in this manual at any time. We do not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this manual. For the actual display & operation, please refer to your DVR in hand. The content of this manual is subject to change without notice. The product & company names mentioned herein may be the registered trademarks or tradenames of their respective owners.



Introduction

Congratulations on your purchase of this *Swann DVR4-5500™* LCD Digital Video Recorder. This stand-alone unit is highly adaptable, and more than capable of providing a simple security solution for both home and business security needs.

A high resolution, in-built LCD display as well as networking features makes this unit entirely self-sufficient, and does not require attachment to a television, external monitor or computer.

This DVR is capable of simultaneously monitoring and recording up to four separate video sources simultaneously. However, if you have fewer cameras, this will not interfere with the operation of the DVR in any way.

Default Password Information

The **default keylock code** for the DVR is "**0000**" (four zeros).
The **default username for remote access** (via LAN or Internet) is "**admin**".
The **default password for remote access** (via LAN or Internet) is "**admin**".

To prevent unauthorised access to your system,
it is strongly suggested that these passwords be changed as soon as possible.
See the relevant sections for information on how to change your passwords.

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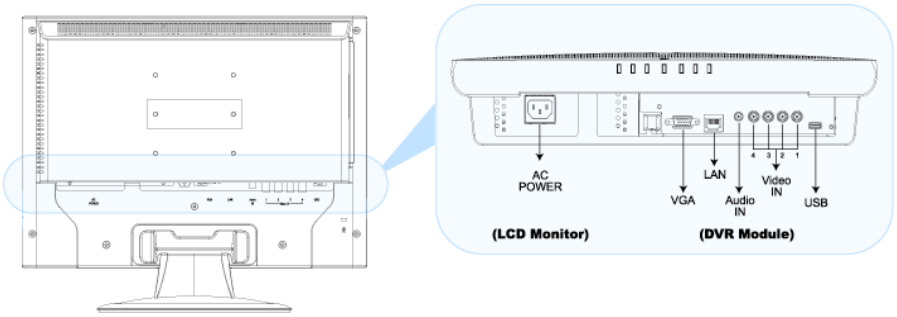
Part 1: Setting up the DVR Hardware

1.1 Layout of Digital Video Recorder (DVR)



AC POWER: Using the supplied power lead, connect this to a wall socket, using an extension lead if required. Uses IEC13/14 connectors (this is the same plug that most desktop computers use).

VGA PORT: For the DVR to be connected to the LCD screen. A small VGA cable runs from the back of the LCD screen, this should be plugged into the VGA connector.

LAN: Used to connect the DVR to a local area network. Use a standard networking cable if your network is connected to a multi-port router or network switch/hub. Use a cross-over cable to connect the unit directly to a computer. It uses standard Ethernet (cat5 or higher) networking cables (not included).

AUDIO IN: Connect to an active audio source, either built into a camera or a separate device. Requires a "line-level" signal, connects using a standard RCA connector.

VIDEO IN: Connect your cameras to these inputs, in the order you would like to see them when you monitor multiple channels (input 1 is shown in the top left of the screen in multi-view mode, and 4 in the bottom right). You can, if required, send video signals into these inputs from any compatible video device.

USB: Can be connected to a USB mass storage device (such as a USB flash drive). You can easily backup recorded images directly to the USB device without connecting the DVR to a computer. Also, you can use a USB device to update the firmware for the DVR.

NOTE: The USB flash drive must be formatted with a "FAT32" file structure. See 4: Upgrading Firmware for more information on how to do this.

1.2 Connecting Cameras to the DVR

The DVR will automatically detect what sort of cameras you have attached to it when it is turned on. Thus, it is important that all cameras are attached correctly before the DVR is turned on! To attach your cameras correctly:

1. Place your cameras in the desired locations.
2. Ensure that your cameras are supplied power, using the correct power supplies.
3. Attach the video cable from the camera to the DVR. The cameras will have either an RCA or coaxial cable, and a BNC connector. To use the BNC connector correctly, push into the video input and twist to lock into position. If your cameras have an RCA connector, use an RCA to BNC adaptor.
4. If the camera is a model which monitors audio, attach the audio cable to the RCA connector marked "Audio IN".

NOTE: The DVR has only one audio input. This means you should select the audio that you are recording carefully – it's usually worth testing all available audio sources and choosing the one that gives the best results. If you really need to record multiple audio sources simultaneously, consider using an external audio mixing console to record multiple sources. This is optional and purchased separately.

1.3 Check VGA Connection

Though they are one unit, the LCD screen has a small VGA cable extending from the back of the monitor. This should be attached to the VGA connector immediately to its right. Check that this is the case and re-attach the cable if it has come loose in transport. This cable and connector are located outside the unit to allow for the connection of other screens to the DVR (if required).

1.4 Connecting Power to the DVR

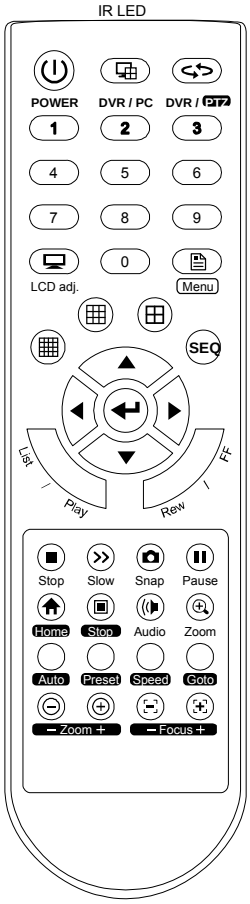
Using the supplied power cable (an IEC13 cable), attach to the AC POWER connection on the DVR. Plug the other end of the cable into a wall socket. If there are no wall sockets nearby, use an extension cable. The DVR will turn itself on as soon as power is connected.

SUGGESTION: To ensure the continual operation of the DVR during power failures, consider using a UPS (Uninterruptible Power Supply). Doing so is optional and they are available separately.

Part 2: Configuring the DVR Software

Before we can start recording video, we need to take a moment to configure some of the settings on the DVR. We need to set the *DATE & TIME*, and then assign a *PASSWORD* for you. To do this, we need to use the infrared remote control which came with the DVR – here's a quick overview of the remote and what the assortment of buttons on it do. Don't be intimidated by the mass of buttons – most of them operate in a very similar way to the remote control on a DVD player or VCR, and many of them you'll probably never need to touch.

2.1 Layout of the Infrared Remote Control



POWER: Turns the DVR and screen on and off.
Press once to enter "power-saving" mode, turning OFF the monitor, leaving the DVR ON. Press and hold to turn OFF the DVR. If the DVR is recording, it will ask you to confirm the shutdown procedure. Press once when DVR is OFF to turn it ON again.

NUMERICAL PAD: 0 – 9
Press to switch channel, much like a TV. They can also be used to enter DVR password. In PTZ mode, used with the Goto key to access pre-set options.

LDC adj.: Adjust Screen Settings
Press once to enter the LCD screen configuration menu. Changes made here will affect viewing conditions on screen, but will not alter the way that the DVR records images. The screen icon above will be shown whilst in *LCD Adjustment Mode*.

Menu: Enter the main menu
Press once to enter the menu, and once to exit the menu again. Whilst you are in a submenu, this button will take you back to the main menu.

: Multi-camera Monitoring
Toggles the number of video inputs displayed onscreen at once. As this DVR has only four video inputs, the additional buttons for nine or sixteen cameras have been disabled.

SEQ: Sequential Viewing Mode
Press once to cycle between active video inputs. Video channels which are inactive or have been assigned "covert" will not be displayed. Press again to stop cycling.

Arrow Keys: Basic Navigation
When in the menu, navigates between available options. Up and down arrows change settings once they are highlighted.
When in viewing mode, up and down change the channel, just like a regular TV.

Enter:
When in the menu, press to select an item or enter a sub-menu.

LIST:
Press once to see a list of recorded events, divided into categories.

Playback Keys: PLAY, REW (Rewind), FF (Fast-Forward), STOP, SLOW, PAUSE
Controls the playback of recorded videos. They operate in the same way as a regular VCR or DVD player.

Snap: Capture a Still Image (Snapshot)
Used to take still images from the video, which are saved directly to an attached USB flash drive. (A USB device must be attached for this function to work correctly.)

Audio: Toggle Audio Monitoring Mode

Live monitoring mode: You will be able to overhear any audio the system is recording live.
No audio icon displayed: Audio is recorded, but not heard in the live window.

Zoom: Increase/Decrease Digital Zoom
Enlarges the image on the selected channel. Will not operate when the viewing mode is set to "default". Will not change what the camera sees and records, just enlarges the displayed image.

Additional Buttons:
You might notice that there are several buttons on the remote not discussed here. This is not an omission on the part of the manual, but a function of the DVR remote. The remote control is designed to function with several DVR models. As such, the remote does have buttons which do not directly relate to your DVR. Don't worry about these\ buttons – they will not do anything when pressed.

2.2 Setting the Date and Time

Once you have powered on the DVR for the first time, and it has finished initialising, we can now set the *DATE AND TIME*. To do this:

1. Press the MENU button.
2. You may be asked for your *password*. The default password is "0000". This can be entered by using the numerical keypad, or by using the up and down keys to select "0" and pressing ↵ four times.
3. Using the up and down arrows, navigate to the *DATE* settings on the first page of the main menu.
4. Use the left and right arrows to select the attribute you want to change, and the up and down arrows to change their value. In this way, update the date and time settings.

IMPORTANT: Update the *DATE AND TIME* **before** you start recording – **do not change it afterwards!** If you do, the recorded data will be out of order, and you will not be able to locate specific events via the '*TIMESEARCH*' function. In some cases, data loss may occur. If you accidentally change the *DATE AND TIME* settings whilst recording, it is recommended that you clear all data off the hard drive and then start recording again.

2.3 Setting the Password

It is important to set a unique *password* to restrict unauthorized access to the DVR. To do this:

1. Open the *MENU*. You may need to enter the default password ("0000") to do this.
2. Scroll down until you come to the *SYSTEM INFO* submenu, scroll right and select *PASSWORD*.
3. It will ask you for your old password ("0000") and then let you enter a new password. Be careful when entering your new password, if you make a mistake you could accidentally lock yourself out.

Some tips on selecting a password:

1. A password can be any four digit long combination of the numbers 0 – 9 and the letters "a" and "b".
2. It is important to choose something that you'll remember, but not something so obvious that potential security risks might guess it.
3. Using the two optional letters (a or b) will improve the strength of your password, but will take longer to enter each time the DVR asks you, as the remote control does not have keys for letters. They can only be selected by using the up and down arrows to change the input character.

Why? The DVR will automatically lock itself after a certain time of inactivity. The default is 30 seconds – your password unlocks the DVR once this has happened. You can change this in the *SYSTEM INFO* menu.

Part 3: Basic Functions

3.1 Overview of the Interface: The Live Monitoring Layout

This section will cover everything you need to start monitoring your cameras and recording footage. It is worth taking some time to experiment with the basic functions of the DVR, so that you understand the features and limitations of your particular setup.

First of all: here's what you'll see when you first turn your DVR on, and an explanation of what some of the icons you'll see mean.

Icon	Description	Icon	Description	Icon	Description	Icon	Description
	Locked		Unlocked		1st live audio channel		1st playback audio channel
	Audio channel unselected		Digital zoom mode		Digital zoom unselected		HDD overwrite
	Timer recording		Motion		Recording		LCD adjustment

3.2 Locking / Unlocking the DVR (*KEYLOCK*)

To prevent unauthorised access to your DVR, the unit automatically locks itself after a short interval of inactivity. To unlock the unit, it is necessary to enter your password. The time until the DVR locks can be adjusted in the *SYSTEM INFO* submenu. It can be set to *30 seconds*, *1 minute*, *2 minutes* or *never*. It is strongly suggested that, if the DVR is in a non-secure location, that the auto-lock feature be left *ON*.

3.3 Recording

When the DVR is recording, it will display the recording icon ( ). If this icon does not appear when the DVR should be recording, check that your recording settings are correct and that the connection between the DVR and the hard-drive is in place.

There are two main ways that the DVR can be configured to record. The first is to record based on a programmed schedule: this is referred to as *TIMER RECORDING*. The alternative, and often preferred method, is *MOTION RECORDING*. In addition, both of these settings can be overridden by the option to manually start and stop recordings.

3.3.1 Timer Recording

To set the unit up for *TIMER RECORDING*:

1. Open the menu.
2. Select *RECORD TIMER*. It's next to the *TIMER* ( ) icon.
3. Then, using the arrow buttons, set the *RECORD TIMER* setting to *ON*.
4. Whilst *ON* is highlighted, hit . This will open the Timer control window.
5. Using the arrow buttons and the button, you can select what hours per day, and which days per week, that the DVR will record for. The DVR will record at all times that you highlight.

The timer icon ( ) will appear on screen whenever the *TIMER RECORDING* function triggers the DVR to record.

3.3.2 Motion Recording

This is a little more complex than *TIMER RECORDING*, but has some distinct advantages. Basically, *MOTION RECORDING* will allow you to configure the DVR to record only when something is happening in front of the camera. This means that the hard drive will not be filled up with hours and hours of nothing happening! This is a great mode to select if, for example, you use the DVR to record images of a location during times that it is unoccupied.

To enable *MOTION RECORDING*:

1. Open the menu, and scroll down to *ADVANCED CONGFIG.*
2. Select *RECORD* from the submenu.
3. Set *EVENT RECORD ENABLE* to *ON*.
4. Whilst the DVR is detecting motion, the motion ( ) icon will light up next to the appropriate video channel to let you know about it.

3.3.3 Manual Recording

Of course, you can just make the DVR record whenever you want! To do this, use the manual override.

1. Open the menu, and scroll down to the *ADVANCED CONFIG*.
2. Select the *RECORD* option.
3. Switch the *MANUAL RECORD ENABLE* option to *ON*.
4. The DVR will now record any active video signal until the *MANUAL RECORD ENABLE* option is turned *OFF*.

Tips and Tricks: Recording everything (and the manual override will record *everything*) that your cameras pick up will fill up the hard drive very quickly. Make sure you really want to do this before you enable it! Under most circumstances, *TIMER RECORDING* or *MOTION DETECTION* are more useful settings.

3.3.4 Some More Recording Options

By carefully configuring the DVR, there is no limit to how automated your recording setup can be. You might have already noticed the *DETECTION TIMER* setting in the *QUICK START* menu. By correctly configuring the motion detection settings, and programming your schedule into the *DETECTION TIMER* window, you will be able to configure the system so that your hard drive space will last weeks to months at a time.

By combining the *RECORD TIMER* with the *DETECTION TIMER*, you can create a customised recording criteria that will suit whatever requirements your situation requires. For example, if you want to use the DVR to monitor a warehouse after business hours, you could easily configure the DVR to not record during the day, and then to record on motion at night. Alternatively, say you are monitoring a convenience store during busy hours to record incidents for use as evidence at a later date. You could configure the system to automatically record at whatever times these incidents are likely to occur – or even the whole time your store is open. There is no limit to how autonomously the system can run, leaving you free to concentrate on the important things.

IMPORTANT: If the hard drive is about to run out of space, the DVR will automatically start recording over previous footage. It will not tell you about this – it is an automatic function to ensure the DVR can record new events as they occur. If you want to keep an eye on the remaining space, it is always listed in the upper right corner of the screen. The DVR will overwrite the oldest footage first – that is, the earliest recorded events will be deleted (in 8GB chunks at a time) to make room for new events to be recorded.

3.4 Playback

3.4.1 Finding an Event

So – something has happened, and you want to review your footage. No problems! The easiest way to go about this is to press the LIST button. This will bring up a menu of different options.

1. *RECORD LIST*: Choose this if you want to view footage that was captured when you manually enabled the recording function.
2. *MOTION LIST*: This will bring up a list of motion triggered recordings. Select it if you are looking for an event that occurred whilst the DVR was in motion detection mode.
3. *ALARM LIST*: Not applicable to this model.
4. *TIMER LIST*: Brings up a list of all recordings that were triggered by the Record Timer.
5. *FULL LIST*: Will display all events recorded by the DVR.

In all cases, the list of events will be ordered by the date and time that they occurred, with the most recent events at the top of the list. To play back an event, simply select it on this list and press ↵.

NOTE: There must be a minimum amount of data on the hard drive for playback to operate correctly. Specifically, there must be 8182 images (frames) on the drive. This equates to about 10 minutes of footage at 30 IPS (NTSC standard) or 12 minutes at 25 IPS (PAL standard). Basically, if the drive is close to empty, it won't playback! If you really need to playback footage and the drive is almost empty, just record something for a few minutes, and then it will work just fine.

3.4.2 Controls for Playback

The playback controls operate in much the same way as a DVD or VCR remote. Basically:

FF (Fast Forward)	Press once to go at 4x speed forward, twice to get 8x, and so on up to 32x
REW (Rewind)	Press once to go at 4x in reverse, twice for 8x and so on, again up to 32x
PAUSE	Press once to pause the playback. Whilst paused, you can use the FF button to advance one frame at a time, and the REW button to go one frame back.
STOP	Ends playback mode – will take you back to the live monitoring screen.
SLOW	Press once to get 1/4x speed, twice to go to 1/8. If you want to go slower, we suggest using the frame advance (PAUSE) button.
AUDIO	Switches between live sound, recorded sound and no sound.

To end playback and return to the live monitoring screen, just hit STOP.

3.5 Upgrading Firmware

We are constantly trying to improve our products: upgrading their features, functionality and compatibility with other devices. To achieve this end, from time to time we release a new copy of the *firmware* for this DVR. Firmware is something in-between hardware and software (hence the name), and basically acts as a series of instructions for the DVR that tells it how to run itself.

To upgrade the firmware to the latest version, you'll need a USB flash drive. Format this to be FAT32 by right clicking it in the *My Computer* window, and selecting *Format*. In the drop down menu (that let's you select what type of format you'd like to do) select FAT32, and hit *Format*. In just a few seconds, your USB drive will be ready to use with the DVR.

You can find and download the most recent version of the firmware for this DVR from our website: www.swann.com.au/downloads. Grab it via the Internet using your PC, and pop it onto the USB flash drive (simply click and drag, or copy and paste it there). **Don't change the filename**: we named it that way for a reason!

Put the USB flash drive into the USB port located on the back of the DVR, right next to the video inputs. Now, grab the DVR remote and:

1. Press MENU.
2. Navigate down to *SYSTEM INFO*.
3. Select *UPGRADE* from the submenu.
4. Move across to *START*, and press ↵.
5. When the popup window asks you to confirm this action, select YES and press ↵.
6. Wait until the DVR finishes processing the upgrade. It will reboot by itself to complete the upgrade.
7. Remove the USB flash drive once this process is complete. **Do not remove it until the DVR reboots!**
8. For a list of USB flash drives which are compatible with this DVR, see **Appendix 2**.

Part 4: Advanced Operations

4.1 Quick Search

If you're hunting some specific footage and you know the date and time at which the DVR recorded it, the best option might be to do a *QUICKSEARCH* for the event you want.

1. Open the MENU and move down to the second page. Select the third submenu, called *EVENT INFO*.
2. In this submenu, select *QUICKSEARCH*.
3. Using the arrow buttons, select the date and time you would like to see an event from.
4. Don't worry about the *SEARCH HDD* option – this doesn't apply to this model, as it only has one HDD.
5. Select *START*.
6. If there was an event recorded at this time, you will be taken directly to it.

4.2 Setting the Recording Settings

4.2.1 Basic Settings

To change the basic recording settings (being the quality and size of the recorded video):

1. Open the *MENU*.
2. Find the *RECORD SETTINGS* in the *QUICK START* menu.
3. You'll have the options to change the *IMAGE SIZE*, *QUALITY* and *IMAGES PER SECOND*.
4. Set these as you require.

There are many different recording options available and the ones that are right for you will depend on a number of factors. Here is a very quick guide to selecting the video settings that are right for you.

First, select your *IMAGE SIZE*. There are two options available:

FRAME:	Each image is stored as its own, discreet image. This option gives better quality at the expense of a higher size.
CIF:	Stands for *Composite Image Frame*. CIF results in a lower quality image per frame, but maintains a high standard of quality when viewed in motion. When in *CIF MODE*, the IPS can be set much higher – this is useful for multi-camera recording.

There are four settings available for *QUALITY*:

NORMAL:	The lowest quality available, but takes up the least space.
HIGH:	Better than NORMAL, not as good as BEST.
BEST:	Better than HIGH, but not SUPER BEST.
SUPER BEST:	A very detailed image, but requires the most space.

Finally, choose your *IPS* (*Images Per Second*). The higher this number, the smoother the motion in your videos will be. The lower the number, the fewer images per second will be recorded. This saved hard drive space, but, if the IPS is too low (5-10 IPS per camera or less), the video can look a little jerky when played back.

When in *FRAME* mode, the IPS can be set between 3 – 30 *IPS* (NTSC) and 3 – 25 *IPS* (PAL).
In *CIF* mode, the *IPS* value can range from 12 – 120 *IPS* (NTSC) and 12 – 100 *IPS* (PAL) this is sometimes called "Real Time" recording.

Which settings are right for you? It all depends on how much detail you need to see in your images, how detailed the images from your cameras are and how much footage you need to store on the hard drive.

For example, if you need to capture images of things moving rapidly, but don't need to see much detail (say, recording the number of cars that drive by, but not needing to identify them) then set the IPS to a high value, but, to conserve space on the DVR, you might set the quality to *HIGH* or even *NORMAL*. *CIF* is most likely to be the right option.

On the other hand, if you wanted to get a great amount of detail, but the subject you are shooting is in view of the camera for some time (such as capturing peoples faces as they walk down a corridor) then set the *IPS* to a low value, but keep the quality at *SUPER BEST*, using *FRAME* mode.

4.2.2 Advanced Settings

To get to the *ADVANCED CONFIGURATION* settings for recording:

1. Open the MENU and scroll down to the *ADVANCED CONFIG*.
2. Select the *RECORD* option.

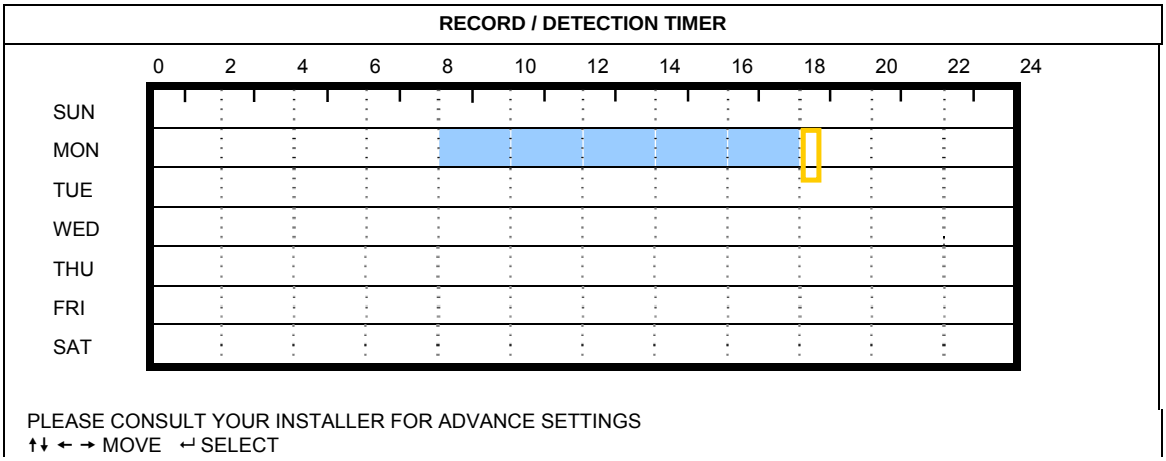
There are a number of options that you can configure or engage here, such as:

1. Engaging the manual record override. This will make the DVR record constantly, regardless of whether *TIMER RECORD* or *MOTION RECORD* modes are engaged.
2. Activating or deactivating the *EVENT RECORDING* and *TIMER RECORDING* modes. If these are deactivated, the conditions specified in the *QUICK START* menu will **not** trigger the DVR to record.
3. *EVENT RECORD IPS* / *TIMER RECORD IPS* – you are able to configure custom IPS settings for different recording modes here. In addition, the highest applicable setting takes effect. For example, you could set the DVR to record for a period at 3 images per second and when it detects motion, increase the IPS to a much higher setting.
4. *OVERWRITE*: You can disable the default overwrite mode of the DVR. When *OVERWRITE* is set to *OFF*, and the DVR hard drive fills up, it will simply stop recording, rather than record over the oldest footage first (its default behaviour).

4.3 Programming the Timer

To most efficiently use the DVR, it is important to set the timer carefully. The instructions that follow cover setting the timer for both *TIMER RECORDING* and *EVENT RECORDING* modes.

1. Open the *MENU*.
2. From the *QUICK START* page, select either the *RECORD TIMER* or the *EVENT TIMER* (whichever you want to set – you can set both to operate at once, but you must program each separately).
3. Set the applicable *TIMER* status to *ON*. Then, whilst *ON* is highlighted, press ↵. The following window will appear:



4. The horizontal axis shows hours of the day, in 24-hour time (0 being midnight, 12 being midday)
5. The vertical axis shows the days of the week, from Sunday through Saturday.
6. Using the arrow buttons, move the yellow cursor to the beginning of the interval you want to set.
7. Press ↵ to set the start point. The cursor will turn red.
8. Use the arrow buttons to move to the end point of the period you wish to set. You'll notice that a blue bar stretches between the start point and the cursors location.
9. Press the ↵ button again to set the end point. The cursor will turn yellow again, and you are able to repeat the process from step 4 to create another active interval.
10. When you have set all the intervals you want, press the MENU button to exit this screen.
11. Repeat this process if you wish to set a timer for an alternate recording mode.

4.4 Advanced Motion Detection Settings

To alter the *MOTION DETECTION* settings:

1. Open the menu, and scroll down to *ADVANCED CONFIG*.
2. Select *DETECTION* from the submenu and press ↵
3. This will open the *DETECTION WINDOW*. You can access settings for all four channels from here.
4. Select which channels you'd like motion detection enabled on. There are four options, *OFF*, *LOW*, *MEDIUM* and *HIGH*. The higher the setting, the less motion needs to occur in front of the camera to trigger the recording on the DVR. It's worth playing with this setting (particularly if the camera is monitoring outdoors where wind and other environmental conditions could trigger the motion sensor) until you find the settings that work for you.
5. Scroll over to the *AREA SETUP* option, and select with ↵.

Whole Image

Centre of Image

Extreme Centre of Image

6. Use the left and right directional buttons to increase or decrease the number red squares that appear.
7. The areas marked by red squares will not count for the purposes of detecting motion in the frame.
8. You can select the whole window through to the very centre – motion detected outside this area will not engage the record function. Hit the *MENU* button to go back to the *DETECTION WINDOW*.

4.5 Advanced System Information

The *SYSTEM INFO* submenu contains a few settings which you should only change if you are very familiar with the operations of your DVR and a couple of items which you will need to set. Here's a brief rundown of what's what:

PASSWORD: Allows you to change the password to access the DVR (see 2.3 for details).
RESET DEFAULT: Recalls original factory settings. Great if you've really messed something up, not so good (in fact, entirely bad) if you've got the system working the way you want it. Make sure you really want to do this before selecting this!
CLEAR HDD: Deletes all recorded footage from the hard drive. Great if the hard drive is full of unwanted images, not so good otherwise. Again, be sure you want to do this before selecting it.
UPGRADE: Allows for the updating of the firmware (see 3.5)
AUTO KEYLOCK: Changes the amount of time before the DVR automatically locks itself. Options are *30 seconds*, *one minute (60 seconds)*, *two minutes (120 seconds)* or *never*.
LANGUAGE: Changes the language that the DVR displays. A great idea if French, German, Chinese (and many others) are your native language, not so good for those who prefer English.
VIDEO FORMAT: Shows whether the DVR is detecting PAL or NTSC cameras. You cannot change this setting.
VERSION: Displays the installed version of the firmware the DVR is running.

4.6 Backing up Events

4.6.1 …to a USB Flash Drive

As mentioned earlier, make sure your USB flash drive is formatted as FAT32 (see 3.5 for how to do this). Also, it's recommended that you delete all data from the USB drive before inserting it into the USB port on the rear of the DVR.

1. Insert the USB flash drive into the USB port on the DVR.
2. Open the MENU, and navigate to *USB BACKUP* (the last option in the menu).
3. You will then see the *USB BACKUP* screen.
4. Select the start and end date and time the event you wish to backup occurred. If you don't know this, it's worth doing a *QUICKSEARCH* or going through the *EVENT LIST* to find the exact footage you want first.
5. Select the *VIDEO CHANNEL(S)* you want to backup. Remember: the more channels you back up, the more space this will take up on the flash drive.
6. Select *START* to begin the backup procedure.
7. **Do not** remove the flash drive whilst the backup is being processed. This will cause data corruption and the information on the flash drive will be lost.
8. Once the backup is complete, the DVR will show the message *BACKUP SUCCESS*. You can now safely remove the flash drive.

NOTE: Not all USB flash drives are compatible with this DVR. Consult Appendix 2 for a list of USB flash drives that are confirmed to work with this DVR. It is not an exhaustive list, and many not listed there will work – if not, the DVR will simply display the message *USB ERROR*. The flash drive will not be harmed.

4.6.2 ...to your PC

Once you've finished backing up an event or two to the USB flash drive, you might be wondering what to do with it. Well, whilst you're backing up footage, the DVR automatically copies a small program onto the flash drive that will allow you to access and playback the footage on a PC.

Insert the USB flash drive into a spare USB port on your PC, open it, and find the file named "PLAYER.EXE". Running this will give you instant access to the footage on the flash drive.

NOTE: The viewing program is supported by Windows Vista, XP and 2000. Using other platforms to view the backed up information is neither recommended nor supported. However – as the files on the flash drive are encoded using the H.264 codec – it is *possible* to play the files without the dedicated program. It's worth noting that this manual contains no information on how to do this, and it is not a supported function of the unit. Attempting to do so could easily corrupt your data.

Part 5: Networking

Why would you put your DVR onto a network? Well, how about being able to monitor your security system from any Internet capable computer on Earth, or even in low orbit if you travel that far from home? It's pretty cool, and really convenient. We're not going to try and deceive you: **this is a somewhat tricky process which does require some knowledge of computers and networking**.

Because of this, we recommend that only people familiar with networking (or those willing to put in the effort to learn) attempt networking their DVR. Often the best thing to do, if you are completely unfamiliar with networking technology, is to find someone who does know, and get them to walk you through it. We've got some additional networking tutorials and information available on our website (check out: www.swannsecurity.com) to help you through the process.

Tips and Tricks: Some additional research might help you out. Don't be put off by the term "research" – all we really mean is: say you come across a term you're unfamiliar with (for example, "Ethernet"), just throw this term into your favourite Internet search engine and – bam! – you'll have more information about Ethernet than you'll know what to do with… and definitely enough to help you through the process.

Foolish Assumptions: We're assuming, for the purposes of this walkthrough, that you have an active Internet connection running through a *router* (yours might have a fancy name, such as "DSL Modem" or "Residential Gateway" – basically, the thing that you use to gain access to the Internet). We're also assuming you have an Internet capable PC hooked up to the network, running a recent version of Windows (such as XP or Vista). If this is not the case and you're unfamiliar with the way your network is set up, we suggest having a chat with the folks who set up your network – they'll probably know what can and can't be done.

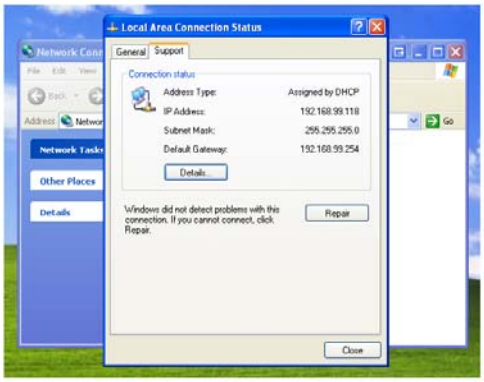
Ready? Take a deep breath, and let's start at the start…

5.1 Connecting the DVR to your Local Network

The way that you'll connect your DVR to your network depends on what kind of network you're running at home. We're going to cover the three most likely scenarios, and walk you through it step by step. (If you're going to use PPPoE, skip this step – but then, if you're familiar with PPPoE, you probably know that already!)

First of all, we're going to need to find out some information about your network. Open your network properties window (usually done by right clicking your network icon and choosing *Properties*). Have a hunt around until you find your network and IP settings.

They'll look something like this.



EXAMPLE

You'll need to make a note of a couple of things, specifically your:

Address Type: **Assigned by DHCP** or **Manually Assigned**

IP Address: ____ : ____ : ____ : ____

NOTE: This is your **PRIVATE IP ADDRESS**, as distinct from your **PUBLIC IP ADDRESS**, which we'll discover later. You'll need to know both.

Subnet Mask: ____ : ____ : ____ : ____
Default gateway: ____ : ____ : ____ : ____

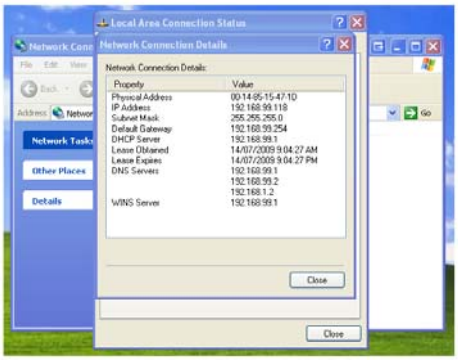
Then, open the *Details* window.
Here, grab your:

DNS Servers: ____ : ____ : ____ : ____
____ : ____ : ____ : ____

There might be a few DNS servers: just grab the top two if there are more.

If you're having trouble with this step, again we suggest talking to the nearest available computer-tech-person (most likely the most convenient geek/student/child) they'll know how to find this information. Alternatively, the people who installed your computer system will know all this information (or at least how to get it).

Once you've got this information, we can go on to the next step.



EXAMPLE

5.2 Configuring the DVR

Once your DVR is connected to your network using a standard Ethernet cable (a cat5 or higher cable) – it plugs into the port on the back of the DVR and runs to the router (or to a network switch, if the ports on the router are full). It is strongly recommended that, unless you have experience in network creation and maintenance, that you use a DHCP network: it is the easiest to set up and most robust over time (particularly when devices are added or removed from the network).

5.2.1 Network with Dynamic Host Configuration Protocol (DHCP)

So, you have IP addresses assigned by the Dynamic Host via DCHP (the technical term for your router basically handing out numbers as necessary, somewhat like the queue at the deli) and we've got to tell the DVR about it.

1. Open the DVR menu.
2. Move down to *ADVANCED CONFIG* and select *NETWORK*.
3. Set *NETWORK TYPE* to *DHCP*.
4. You notice that you cannot change the settings for *IP*, *GATEWAY*, or *NETMASK*. This is normal – these will be assigned automatically. Make a note of the *IP* address that is displayed, [____ : ____ : ____ : ____] as we'll need it later. This is the **PRIVATE ADDRESS OF THE DVR.**
5. Change the *PRIMARY DNS SERVER* and *SECONDARY DNS SERVER* addresses to the DNS server addresses you noted down in 5.1.
6. Change the PORT number to *0085*. (It's usually *0080* by default, but a lot of devices use port 80. We change it to 85 to avoid conflicts with other things on the network.)

Exit the menu – the DVR is now configured to run on your network.

5.2.2 Network with Static (or Manually Assigned) IP Addresses (STATIC IP)

So – your network has static IP addresses – this means that we're going to need to assign an IP to the DVR manually. This is tricky, and things can go wrong. We recommend that people unfamiliar with TCP/IP protocols either change their network to use DHCP or talk to an IT professional about configuring their network.

1. Open the DVR menu.
2. Move down to *ADVANCED CONFIG* and select *NETWORK*.
3. Set *NETWORK TYPE* to *STATIC*.
4. Now we need to set the IP value. The first three values are the same as the IP address for your computer – we only need to change the last value. Think about the two addresses as being neighbours – mostly the same address but with a different street number, if that helps makes sense of it. You can pick any number that is not already taken by the network – for example, if your PC's IP address is 192.168.010.015, then you could set the DVR's *IP* value to 192.168.010.016, assuming that there is nothing using this address already! Again, keep a note of the value you chose for this: [____ : ____ : ____ : ____]
5. Enter the same value for the NETMASK as the Subnet Mask from your PC.
6. Likewise with the GATEWAY value – copy the Default Gateway address directly from your PC.
7. Change the *PRIMARY DNS SERVER* and *SECONDARY DNS SERVER* addresses to the DNS server addresses you noted down in 5.1.
8. Change the PORT number to *0085*. (It's usually *0080* by default, but a lot of devices use port 80. We change it to 85 to avoid conflicts with other things on the network.)
9. Exit the menu – your DVR should now be configured for the network!

5.2.3 Point to Point Protocol Over Ethernet Networking (PPPoE)

PPPoE (Point to Point Protocol over Ethernet) is a very advanced protocol. Whilst the DVR can be configured to run via this protocol, but you'll need to have a good to advanced knowledge of Internet protocols and networking procedures to set it up.

NOTE: We strongly suggest that this DVR be connected to the Internet via a router – and since most Internet service providers supply routers with their Internet plans, we strongly suggest connecting via the router, using a DHCP network. It's so much easier.

However, if you're determined to press on with a PPPoE configuration:

1. Open the DVR menu, head to *ADVANCED CONFIG* and open *NETWORK*.
2. Set the *NETWORK TYPE* to *PPPOE*.
3. Enter your *USERNAME* and *PASSWORD* for your ISP provider in their applicable fields.
4. You'll notice that your *IP*, *NETMASK* and *GATEWAY* values revert to empty. This is normal.
5. Enter your *DNS* values – you'll have to find them manually, or consult your ISP.
6. Set your *PORT* value to whatever you want (just remember it – our preferred number is *0085*).
7. Find out your **PUBLIC IP ADDRESS** (you might need to contact your ISP) and make a note of it.

5.3 Configuring your Network for Remote Viewing

There are two final steps you'll need to take to be able to access your DVR via the Internet.

The first is to configure your router for *port forwarding*. If you're totally unfamiliar with what this entails, we suggest talking to an IT professional.

The second important step is to determine your **PUBLIC IP ADDRESS** (sometimes called a "*WAN [Wide Area Network] address"* or "*global IP address"*). You should already know the **PRIVATE IP ADDRESS** for the DVR. If you don't, you may have to revisit steps 5.1 and 5.2.

5.3.1 Port Forwarding

This is a setting in your router – it can be accessed via an Internet browser window if you enter the address for the *Default Gateway*. Your router will open up a window and you need to go to the *Port Fowarding* page (sometimes called *Virtual Server*).

You need to forward port 85 (or whichever value you entered in the PORT value in the DVR's networking menu) to the IP address on your DVR.

Tips and Tricks: Routers are third party hardware – and there are hundreds of them out there. Unfortunately, we couldn't possibly provide a guide for every one of them, not even most. We've got a networking tutorial on our website that covers the most popular routers – you can check it out at www.swannsecurity.com. If your router is not covered by this tutorial, then we suggest you check out www.portfoward.com – they've got information for practically every router ever made.

5.3.2 Your PUBLIC IP ADDRESS

There are two simple ways to find out your **PUBLIC IP ADDRESS**. This value will be displayed somewhere in your router's menu – it's just a matter of finding it. Again, check out www.portfoward.com for loads of information about different router types.

If you can't find it in your router (or just don't want to go there) you can log onto a website such as www.whatismyip.com. This will tell you instantly. Just be sure to visit this website from a computer on the **same network** as your DVR!

IMPORTANT: Static versus Dynamic IP Addresses

Most Internet plans come with a "dynamic IP address". If your Internet service provider uses dynamic IP addresses for your plan, this means that your IP may change over time, and it will definitely change if you disconnect and reconnect to the Internet. This can make keeping track of your **PUBLIC IP ADDRESS** difficult, because it will keep on changing!

There are two solutions to this problem:

1. Get a fixed IP address. You can talk to your ISP about this – it'll cost a little extra, but will save any hassles.
2. Use a referencing service such as Dynamic DNS (www.dyndns.com). Dynamic DNS will keep track of your dynamic IP address as it changes, and let you create your own domain name so you'll always have access to it – and it's a free service! We often recommend this service to DVR owners who have a dynamic IP address.

You'll need to contact your Internet service provider to find out what sort of IP address they provide for with your Internet plan, or to change your IP type from *dynamic* to *static*.

Part 6: Remotely accessing your DVR

There are a few methods available for you to access your DVR remotely or via your local network, ranging from using the dedicated software (supplied on the enclosed CD) to using an Internet Explorer browser window.

NOTE: The first time you remotely access your DVR, you will be asked for a username and password. The default username is "admin" and the default password is also "admin" (both an abbreviation for "administrator", being you).

6.1 Finding your DVR via the network or the Internet

The address you'll need to know when locating your DVR depends on how you are accessing it.

If you are connecting via the local network, the address you'll need to use is:

http://PRIVATE IP ADDRESS OF THE DVR:PORT

Example: http://192.168.010.016:85

Via the Internet, you'll need to use:

http://PUBLIC IP ADDRESS OF YOUR NETWORK:PORT

Example: http://165.228.182.26:85

You should have already discovered these values – if you have not, follow the instructions in **Part 5**.

6.2 Using the Video Viewer software

6.2.1 Installation

The CD which came with your DVR contains a dedicated program called "Video Viewer". To install this:

1. Place the CD in your computers optical drive (CD, DVD, Blu-Ray – whichever you have).
2. The software should automatically run. (If you've turned the *AutoRun* function off in your computer, you'll have to open the disc and run the file named "setup.exe").
3. Choose an option from the pop-up window – either "Licensed Software AP" to install the version on the disc, or "Download Latest Version" if you have a fast Internet connection, as this will give you access to the most recent update of the program.
4. Follow the remaining onscreen instructions to finish the installation.
5. The installation procedure will place an icon ( ) on your desktop to run *Video Viewer*.

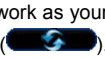
6.2.2 Connecting to your DVR

Once you run *Video Viewer*, you be greeted by an window containing an *Address Book*, which you can use to enter the IP address of your DVR. Click the *ADD* icon to add an address to the *Address Book*.

The required address will be different, depending on whether the computer you are using is on the local area network (PRIVATE IP ADDRESS:PORT) or connected via the Internet (PUBLIC IP ADDRESS:PORT).

Username and Password: You will be asked for a username and password for remote access. The default username is "admin" and the password is also "admin".

You can save these addresses to the *Address Book*. This will make it simpler and more convenient to access the DVR remotely in the future.

You can also use the search function to find your DVR, but only if the DVR is connected to the same network as your PC. To do this, click the *SEARCH* icon ( ) – if your DVR doesn't appear, try clicking *REFRESH* (). Once you've found the DVR, use the *ADD* button to save the address.

To connect to the DVR, double-click the address you just added to the address book – this will take you to the *Event Interface*.

6.2.3 Using the *Video Viewer* Interface

NO.	Icon	Name	Description
①	N/A	Image Display	The place where your images are displayed.
②		Address Book	Where you can enter the IP address of your DVR, and save it for future reference.
③		Miscellaneous Control	Gives you a list of options that you can set. For details, see *The Miscellaneous Control Window*, detailed on the next page.
④	/	Record / Record Stop	Click to start / stop the manual recording.
⑤		Snapshot	Click to take a snapshot (still image) of the current view. The snapshot will be saved in the path you specified in *Record Settings*.
⑥		Information	Shows the current network connection details.
⑦		DVR Control	Click to go to the *DVR Control Panel*, which allows you to operate the DVR remotely.

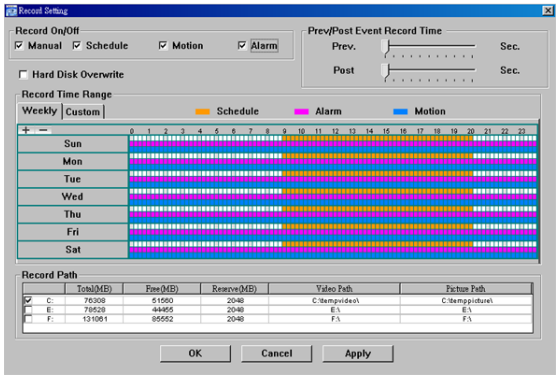
6.2.4 The *Miscellaneous Control* Window

When you click *Miscellaneous Control* icon ( ) you'll be transported to the *Miscellaneous Control* window:

Button	Function	Description
	Colour Setting	Changes the appearance of selected video channels. Allows you to set the *brightness*, *hue* and *saturation* values in a similar manner to a television screen.
	Backup	Takes you to the *Download Setting* page to make a video backup remotely.
	Record Setting	Access the *Detailed Record Settings*.
	Server Setting	Access the *Detailed DVR* settings.
	Tools	Allows you to update the firmware version, multilingual options and boot display of your DVR remotely.
	Status List / Playback	Click to view all events and recording logs, search the recorded footage by date, or playback the recordings.

6.2.5 The *Record Settings* Window

Access this window by clicking the *Record Settings* icon ( ) in the *Miscellaneous Control* window.



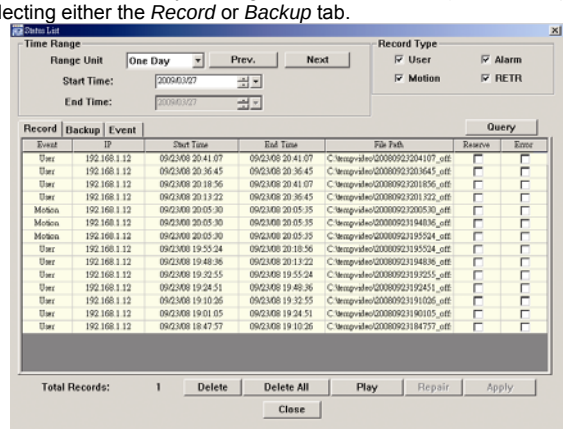
Using the *Record Settings* window (accessed through the *Miscellaneous Tools* window) you can set:

- The *Recording Mode*, such as *Motion Detection* or *Timer Recording*
- The *Recording Schedule* for both *Motion Detection* and *Timer Recording*
- Turn *Hard Drive Overwriting* on or off
- Enable the *Manual Override* function to record constantly

Note: As the *Video Viewer* software is configured to allow you to access several types of DVR, you might notice settings (such as "Alarm" setting or "Record Path" table above) which are **inapplicable to this DVR**. Don't worry too much about them; however they are set, they won't interfere with the functioning of this DVR.

6.2.6 Playing Back Footage

Access this window by clicking the *Status List* / *Playback* icon ( ) in the *Miscellaneous Settings* window, and selecting either the *Record* or *Backup* tab.



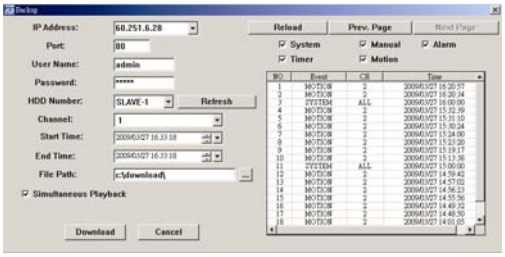
The *STATUS LIST* Window

The *PLAYBACK* Window

To playback a recording, simply select the one you want from the list, double-click or click *Play*. You'll immediately be taken to the *Playback Control* window.

6.2.7 Backing up Footage via the Network

To create a remote backup of your footage, first click the *Status List* / *Playback* icon ( ) in the *Miscellaneous Settings* window, and select the *Backup* tab.



To create a backup of your footage:

1. Verify the network information used to connect to the DVR is correct. The settings for *IP Address* / *Port* / *User Name* / *Password* options in the left column.
2. Specify the channel number (the option named *Channel*) which you wish to backup.
3. Choose the time range you want to record, or specify one event from the *Event List*.
4. Choose the location on your computer where you want to save the footage (*File Path*).
5. If you want to view the images as you are backing them up, choose the *Simultaneous Playback* option – you will be able to watch the footage at the same rate as it is being copied. If this is not selected, you will see a progress meter and time remaining to copy information instead.
6. Click *Download*.

6.3 Accessing the DVR without Video Viewer

If you are away from your DVR and want to access the footage on it or configure your recording options, you can gain access to the DVR via Internet Explorer (Windows) window or QuickTime Player (Mac).

6.3.1 Accessing your DVR via Internet Explorer

To do this, open up an Internet Explorer browser window, or a Mozilla Firefox browser window. Be sure that your copy of your Internet browser is up to date.

In the address bar, type the address of the DVR – the PRIVATE IP ADDRESS if you are on the same local network as the DVR, the PUBLIC IP ADDRESS if you are accessing the unit remotely (see 6.1).

#	NAME	ICON	DESCRIPTION
1	Home		Returns you to the main window for the DVR
2	Config		Access the detailed DVR settings.
3	PTZ		Not applicable for this model.
4	Channel		Chooses which channel is being viewed.
5	Selection		Changes the channel being viewed.
6	Display Mode		Cylces between split screen mode and sequential viewing (one channel at a time).
7	Menu / Arrows		Click the centre to enter the menu / exit the menu mode. The arrows navigate between options whilst the menu is open.
8	Event		Enter the *Event Playback* screen.
9	Snapshot		Takes a still image from the video footage. This will open in a new browser window.
10	Keylock		Locks the DVR. To unlock it, enter your password and click
11	Enter		Confirms a setting or selection.
12	Digital Zoom		Increases or decreases magnification of the viewed image.
13	Search		Opens the detailed search window.
14	Playback Controls		Plays, stop, fast forward, rewind, pause and slow playback controls. They operate in the same manner as those on the infrared remote control.
15	Web Transmission		Changes the type of video being streamed over the Internet. There are two options available: H.264 (default) and QuickTime. Ensure you have a working copy of QuickTime installed before changing transmission type.
16	Quality		Choose a quality setting from BASIC, NORMAL, HIGH and BEST. The higher the quality of video, the more bandwidth it will require. If playback is pausing frequently or distorting, try a lower quality setting.
17	Resolution		Changes the resolution between 480 and 240 lines. Again, more lines require more bandwidth.
18	Audio Channel		Turns the audio channel on or off.

6.3.2 Accessing your DVR via QuickTime

Access to the DVR via QuickTime will allow you to log into the DVR and monitor the live images only.

1. Ensure you are running the most up-to-date version of QuickTime. If you need to update, you can grab an update from the Internet, at www.apple.com/quicktime
2. Open your QuickTime window.
3. From the File menu, choose *Open URL in New Player…*
4. Key in the address of your DVR (see 6.1)
5. Click OK.
6. A popup window will appear, asking you for the username and password (both “admin” by default).
7. The login may take a moment to process. When it does, you will be taken directly to the live view page.

Appendix 1. Technical Specifications	
LCD Panel	
Size	18.95" (measured across diagonal)
Resolution	WSXGA+ (1440 x 990 pixels)
Aspect Ratio	16 : 10 Widescreen
Peak Brightness	300cd/m^2 (typical)
Contrast Ratio	1000 : 1 (typical)
Response Time	5ms [Tr + Tf] (typical)
Viewing Angle	85/85/80/80 (CR ≥ 10)
Scaling and Zooming Engine	YES
Colour Temperature Adjustment	YES
On-Screen OSD Function	YES
Viewing Aspect Ratio	16 : 10 Full Frame Widescreen
IR Control (RCU)	YES
Built in Speaker	1 x 1 watt
D-Sub Input	1 x VGA (15 pin)
DVR	
Video System	NTSC / PAL (automatic detection)
Video Compression Algorithm	H.264
Video Input	4 x composite video signal (1 Vp-p 75Ω BNC)
Audio Input	1 x RCA
LCD Display Mode	Default / Normal / Full (selectable)
Maximum Recording Rate (Frame)	720 x 480 px at 30 IPS (NTSC) or 720 x 576 px at 25 (PAL)
Maximum Recording Rate (CIF)	352 x 240 px at 120 IPS (NTSC) or 352 x 288 px at 100 IPS (PAL)
Multilingual OSD	YES
Hard Drive Storage Capacity	1 x SATA HDD (up to 1TB)
QuickSearch Modes	Event / Time search mode
Multiplex Operation	Live display / Record / playback / backup / network operations
Motion Detection Area	Three (3) pre-defined detection areas
Motion Detection Sensitivity	HIGH / MEDIUM / LOW
Pre-trigger Recording	YES (8MB)
Backup Device	USB 2.0 flash drive / Network
Web Transmission Format	H.264 (scalable quality)
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet
Web Interface	Licensed software *Video Viewer* (Windows 2000, XP, Vista) Internet Explorer / Mozilla Firefox web browsers (Windows 2000, XP, Vista) QuickTime player (Windows 2000, XP, Vista; MAC)
IR Remote Control	YES (Built-in IR receiver)
Keylock (Password Protection)	YES
Video Loss Detection	YES
Camera Title	Up to six (6) alphanumeric characters
Video Adjustments	Hue / Saturation / Brightness / Contrast 15 levels (-7 to +7)
Date Display Format	YY/MM/DD, DD/MM/YY, MM/DD/YY or OFF.
Daylight Savings	YES
System Recovery	Auto-recovery after power failure
Power Consumption	22W
Dimensions	443mm (length) x 379.2mm (height) x 195.2mm (depth)

Appendix 2. Compatible USB Flash Drive List		
Transcend	JFV35	4GB
	JFV30	8GB
Kingston	DataTraveler	1GB
PQI	U172P	4GB
Apacer	AH320	2GB
	AH320A	8GB
	AH220	1GB
	AH320	4GB
A-data	RB-18	1GB
Sandisk	Cruzer Micro	2GB
	Cruzer Micro	4GB
	Cruzer4-pk	2GB
Netac	U208	1GB
MSI	F200	4GB
SONY	Micro Vault Tiny	1GB
	Micro Vault Tiny 2GB	2GB
	Micro Vault Tiny 4GB	4GB

To ensure the maximum compatibility of the DVR with your flash drive, be sure to upgrade the DVR firmware to the latest version, available online. If the flash drive is not compatible, the unit will display the message "USB ERROR".
NOTE: Use your PC to format your USB flash drive to FAT32.
NOTE: You can backup up to 2GB of video data per USB backup. To backup more, simply repeat the process.

Appendix 3. Compatible SATA HDD List

MANUFACTURER	MODEL	CAPACITY	SPEED
Seagate	ST3320613AS	320GB	7200 rpm
	ST33500320AS	500GB	7200 rpm
	ST3750330AS	750GB	7200 rpm
	ST31000340AS	1000GB (1TB)	7200 rpm
WD	WD4200AAKS	320GB	7200 rpm
	WD5000AACS	500GB	7200 rpm
	WD6400AAKS	640GB	7200 rpm
	WD7500AAKS	750GB	7200 rpm
Maxtor	STM3500350AS	500GB	7200 rpm
	STM3750330AS	750GB	7200 rpm
HITACHI	HDT25032VLA360	320GB	7200 rpm
	HDS721010KLA330	1000GB (1TB)	7200 rpm

Appendix 4. Removing the DVR Module

1. Remove the base of the LCD monitor.
    a. Place the monitor face-down on a soft, protected surface.
    b. Remove the LCD monitor base as indicated below:
        i. First, snap off the screw cover from the monitor base.
        ii. Remove the four stand screws.

2. Place the LCD monitor face down, on a soft, protected surface.
3. Remove all cables connected to the DVR module, including the VGA cable.
4. Remove the two (2) screws which are used to fix the DVR to the LCD monitor.
5. Hold the BNC (video) connectors, and pull gently in the direction as indicated below. The module will slide out.

Appendix 5. Replacing the SATA HDD

First, remove the DVR from the back of the monitor as detailed above. Then:

1. Remove the screws on the upper cover. Remove the upper cover.
2. Unscrew and remove the supplied SATA HDD – there are two screws, one on either side.
3. Unplug original SATA HDD.
4. Plug in new SATA HDD. Remember to attach both the POWER and the SATA connectors.
5. Place new SATA HDD into the spot taken by the original SATA HDD, screwing new drive into position.
6. Close upper cover of the DVR module, replacing all screws removed in step one.
7. Return DVR to slot in the back of the LCD screen.

Note: The DVR is, basically, a dedicated (meaning that it performs a single task, recording video) computer. The internal components are complex and fragile. Whilst changing the hard drive is a relatively straight forward procedure for people who are familiar with assembling and modifying computer hardware, it may be challenging for people who are not. In the latter case, we suggest taking the DVR to a qualified computer technician, who will be very familiar with the process of installing a hard drive.

Warranty Terms and Conditions

Swann Communications USA Inc.
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Santa Fe Springs CA 90670
USA

Swann Communications PTY. LTD. Building
4, 650 Church Street,
Richmond, Victoria 3121
Australia

Swann Communications warrants this product against defects in workmanship and material for a period of one (1) year from it's original purchase date. You must present your receipt as proof of date of purchase for warranty validation. Any unit which proves defective during the stated period will be repaired without charge for parts or labour or replaced at the sole discretion of Swann. The end user is responsible for all freight charges incurred to send the product to Swann's repair centres. The end user is responsible for all shipping costs incurred when shipping from and to any country other than the country of origin.

The warranty does not cover any incidental, accidental or consequential damages arising from the use of or the inability to use this product. Any costs associated with the fitting or removal of this product by a tradesman or other person or any other costs associated with its use are the responsibility of the end user. This warranty applies to the original purchaser of the product only and is not transferable to any third party. Unauthorized end user or third party modifications to any component or evidence of misuse or abuse of the device will render all warranties void.

By law some countries do not allow limitations on certain exclusions in this warranty. Where applicable by local laws, regulations and legal rights will take precedence.

Swann Technical Support

All Countries E-mail: tech@swannsecurity.com
Telephone Helpdesk

USA toll free
1-800-627-2799
(Su, 2pm-10pm US PT)
(M-Th, 6am-10pm US PT)
(F 6am-2pm US PT)

USA Exchange & Repairs
1-800-627-2799 (Option 1)
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See http://www.worldtimeserver.com for information on time zones and the current time in Melbourne, Australia compared to your local time.

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